

1 (August 2, 2004)

2 **Bridge Deck Repair**

3 The Contractor shall have the services of a qualified technical representative of the
4 pre-packaged concrete manufacturer available at the job site to assist in assuring
5 the proper preparation and use of the pre-packaged concrete in the bridge deck
6 repair. The qualified technical representative shall be present at the site at all
7 times while the Contractor is preparing and placing the pre-packaged concrete mix.
8 The qualified technical representative shall be an employee of the pre-packaged
9 concrete manufacturer. Recommendations made by the qualified technical
10 representative and approved by the Engineer, shall be followed by the Contractor.

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12 All loose and unsound concrete within the repair area shall be removed with
13 jackhammers or chipping hammers no more forceful than the nominal 30 pounds
14 class, or other mechanical means approved by the Engineer, and operated at
15 angles less than 45 degrees as measured from the surface of the deck to the tool.
16 If unsound concrete exists around the existing steel reinforcing bars, or if the bond
17 between concrete and steel reinforcing bar is broken, the Contractor shall remove
18 the concrete to provide a 3/4 inch minimum clearance to the bar. The Contractor
19 shall take care to prevent damage to the existing steel reinforcing bars and
20 concrete to remain.

21
22 After removing sufficient concrete to establish the limits of the repair area, the
23 Contractor shall make neat vertical saw cuts and maintain square edges at the
24 boundaries of the repair area. The saw cut depth shall not exceed 3/4 inch or the
25 concrete cover over the top steel reinforcing bars, whichever is less.

26
27 The pre-packaged concrete shall be thoroughly mixed in a batch mixer which mixes
28 materials uniformly throughout the batch, and is of the type and size approved by
29 the Engineer. The mixer shall have a minimum rated capacity of four cubic feet.
30 The batches shall be charged into the mixer such that some water enters before
31 the pre-packaged material. The Contractor shall place all water required for the
32 mix in the drum by the end of the first quarter of the required mixing time of one
33 minute minimum. The Contractor may propose shorter mixing times with special
34 mixing equipment by submitting mixing test results to the Engineer for approval. If
35 the Contractor uses heated water, the Engineer may require revising the order of
36 charging to prevent flash setting of the concrete mix.

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38 The exposed steel reinforcing bars and concrete in the repair area shall be
39 sandblasted and blown clean just prior to placing concrete.

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41 All bridge deck repair areas shall be cured in accordance with the pre-packaged
42 concrete manufacturer's recommendations as approved by the Engineer, or in
43 accordance with Section 6-02.3(11) for Class 4000D concrete, until the concrete
44 has attained the specified strength. During concrete curing, all vehicular and foot
45 traffic shall be prohibited on the repaired area.

46
47 For those bridge decks receiving a waterproofing membrane and HMA overlay, all
48 deck repair shall be completed prior to placement of the waterproofing membrane.